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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P15215PC00	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)
International application No. PCT/IB 03/02915	International filing date (day/month/year) 23.07.2003	Priority date (day/month/year) 23.07.2002
International Patent Classification (IPC) or both national classification and IPC G01R31/36		
Applicant SOUTH AFRICAN MICRO ELECTRONIC SYSTEMS...et al.		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>		
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the opinion</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input checked="" type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>		
Date of submission of the demand 20.02.2004	Date of completion of this report 10.12.2004	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Bergado Colina, J Telephone No. +49 89 2399-2738 	

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I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-10 as originally filed

Claims, Numbers

1-20 as originally filed

Drawings, Sheets

1/4-4/4 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).
- (Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:
- ☐ the entire international application,
 - ☒ claims Nos. 19,20
- because:
- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):
 - ☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 19,20 are so unclear that no meaningful opinion could be formed (*specify*):
- see separate sheet**
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
 - ☐ no international search report has been established for the said claims Nos.
2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:
- ☐ the written form has not been furnished or does not comply with the Standard.
 - ☐ the computer readable form has not been furnished or does not comply with the Standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-18
	No: Claims	
Inventive step (IS)	Yes: Claims	1-18
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-18
	No: Claims	

2. Citations and explanations

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see separate sheet

**III. NON-ESTABLISHMENT OF OPINION WITH REGARD TO NOVELTY,
INVENTIVE STEP AND INDUSTRIAL APPLICABILITY**

The application does not meet the requirements of Article 6 PCT, because claims 19 and 20 are not clear.

Indeed, said claims contain references to the description and the drawings. According to Rule 6.2(a) PCT, claims should not contain such references except where absolutely necessary, which is not the case here.

**V. REASONED STATEMENT UNDER ARTICLE 35(2) PCT WITH REGARD
TO NOVELTY, INVENTIVE STEP OR INDUSTRIAL APPLICABILITY;
CITATIONS AND EXPLANATIONS SUPPORTING SUCH STATEMENT**

1. Reference is made to the following documents:

D1: US-A-5936435

D2: US-A-3936720

2. The document **D1** is regarded as being the closest prior art to the subject-matter of claims 1 to 18, and discloses (see the passages as cited in the International search report, especially column 8, line 49 to column 9, line 14) a method and a device for comparing two DC voltages and for providing a corrected voltage signal out of a difference between the two signals, using as a reference a preselected common voltage point in a circuit receiving the delivery of the DC supply.

The subject-matter of independent claims 1 and 9 therefore differs from this known disclosure in that the provision of DC power out of an AC line is made via a bridge rectifier, in that the signals to be analysed are representative of the live and neutral AC signals instead of DC signals, and in that the device and the

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method according to **D1** are not suitable for ascertaining an AC power supply voltage.

The problem to be solved by the present invention may therefore be regarded as finding a way to provide DC power out of an AC power supply, whose voltage needs to be ascertained. The formulation of this problem is common knowledge for obvious reasons.

The solution proposed in independent claims 1 and 9 of the present application, however, has to be considered as involving an inventive step (Article 33(3) PCT) for the following reasons.

In document **D2** a half-wave rectifier circuit is disclosed employing a differential amplifier including stabilizing negative feedback means.

The above-cited distinguishing features are thus not disclosed in **D2**. In particular, providing a corrected voltage signal which comprises the differential between signals representing the two AC input signals is not disclosed or hinted at in the cited documents. The skilled person would therefore not arrive to the subject-matter of claims 1 and 9 in an obvious way.

The subject-matter of claims 1 and 9 does therefore involve an inventive step in the sense of Article 33(3) PCT.

3. Claims 2 to 8 and 10 to 18 are dependent on claims 1 or 9 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

Consequently, the subject-matter of said dependent claims also involves an inventive step in the sense of Article 33(3) PCT.

4. The application does not meet the requirements of Article 6 PCT, because claims 1 and 9 are not clear.

- a) Claim 1 is not supported by the description as required by Article 6 PCT, as its scope is broader than justified by the description and drawings. The

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reasons therefor are the following:

Claim 1 broadly defines all the features of the claimed method in terms of their function. However, the description and drawings convey the impression that these functions can only be carried out in a particular way, and no alternative means are envisaged.

Hence, claim 1 is not supported by the description as required by Article 6 PCT.

- b) Furthermore, all the features in the apparatus claim 9 relate to a method of using the apparatus rather than clearly defining the apparatus in terms of its technical features. The intended limitations are therefore not clear from this claim, contrary to the requirements of Article 6 PCT.

5. The independent claims are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art (document **D1**) being placed in the preamble (Rule 6.3(b)(I) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
6. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
7. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents **D1** and **D2** is not mentioned in the description, nor are these documents identified therein.